

Abstract

A ferrule is designed to be laser welded to a fiber optic cable. The ferrule has an inner annular wall and an outer cylindrical surface. Sets of cavities are spaced along the inner annular wall of the ferrule. Each cavity is connected to the outer surface of the ferrule by an open passage. The inner annular wall of the ferrule leads to a narrow channel for receiving a length of exposed core of the cable. The inner annular wall is sized to snugly receive an outer covering of the cable. When a fiber optic cable end is inserted into the ferrule and the exposed core extends through the channel, lasers are directed through the passages and cavities to melt the outer covering of the fiber. The outer covering expands into the cavities and secures the cable within the ferrule when the lasers are removed and the covering cools. The cavities provide an increased bonding surface area.